



OIPE

RAW SEQUENCE LISTING
PATENT APPLICATION: US/10/086,510

DATE: 03/19/2002
TIME: 15:08:45

Input Set : A:\50549-20001.20txt.txt
Output Set: N:\CRF3\03192002\J086510.raw

4 <110> APPLICANT: Fang-Tseh (Frank) CHANG et al.
6 <120> TITLE OF INVENTION: METHODS AND COMPOSITIONS FOR PEARL
7 OYSTER CULTIVATION
9 <130> FILE REFERENCE: 505493000120
C--> 11 <140> CURRENT APPLICATION NUMBER: US/10/086,510
C--> 12 <141> CURRENT FILING DATE: 2002-02-27
14 <150> PRIOR APPLICATION NUMBER: 60/310,070
15 <151> PRIOR FILING DATE: 2001-08-02
17 <160> NUMBER OF SEQ ID NOS: 6
19 <170> SOFTWARE: FastSEQ for Windows Version 4.0
21 <210> SEQ ID NO: 1
22 <211> LENGTH: 2050
23 <212> TYPE: DNA
24 <213> ORGANISM: Pinctada margaritifera
26 <400> SEQUENCE: 1

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MAR 27 2002

TECH CENTER 1600 2nd

27	ggcatttcaa	aacttacaag	agagagatac	agtaaagtgtg	gagaatgacg	acacttcttc	60
28	acttgactcc	tctgcttggt	ctgattccat	tatgtcattg	tgcctccatg	cacaggcatg	120
29	accattatat	ggacatggat	aaaacctacc	gtaatcgatg	gggaaactgt	cattattcag	180
30	ggggaagtag	ctgtgacgcc	gggttttagct	acaataggga	acaaaatgag	gaacaatgcc	240
31	acgggtccgta	tgactggcac	actatatcta	gttgctttaa	ggcatgtgga	agtaaagaga	300
32	gacaatcacc	aatcaacatt	tggtcacata	gagccctttt	ccgaaaactg	ccaagactga	360
33	aattcaagcc	acatatgaaa	tcattggata	cgaaagtgtc	aaatcaccaa	aatcatgccc	420
34	ctgaattcga	ttcagaggac	gaaaaacttc	atgttaaact	gaagaatctt	gttgatggac	480
35	attataaatt	ccgcaatctc	catattcaca	ttggcaaaag	tagacgaaag	ggctccgaac	540
36	acagcgttga	cagacatttt	acacctatgg	aggctcattt	agtgttccgt	catgatgaga	600
37	aaaaggaaat	caaacctcct	aggatttggt	taggaagaaa	tttcagtgga	attaatgaat	660
38	ttgttgctgt	tgggggtttt	ctagagggtg	gtgatgaagg	atacggtgat	gaaccggacg	720
39	acgatgaatg	taagcgcata	ttaaagggtc	attacgatca	ttgcgacaac	aatggagaca	780
40	acggctacaa	ctgtgataac	ggcaacaatg	gaaacaacgg	aaacaatggt	aatggtaaca	840
41	acggttataa	cggtaacaac	ggttataacg	gtaataacgg	tgacaatggc	aacagtggaa	900
42	acaatggtaa	tggttaacaac	ggttataacg	gtaacaacgg	ttataacggt	aataacggtg	960
43	acaatggcaa	cagcggaaac	aatggtaaat	gtaacaacgg	ttataacggt	aataacggtg	1020
44	gcaacggaaa	caacagaaac	aatggcaatg	gtaacaacgg	ttataacggt	aataacggtg	1080
45	acaatggcaa	caacggaaac	aatggtaaat	gtaacaacgg	aaacaatggt	aatgataaca	1140
46	acggaaataa	tggtaatggt	aacaacggaa	ataacggtgg	caatggcaac	aatggaaaca	1200
47	atggtaaatg	taacaacgga	aataatggta	atggtaacaa	cggaaataat	ggtaatggta	1260
48	acaacggaaa	taacggtggc	aatggcaaca	atggtaaatg	taacaatgga	aataatggta	1320
49	acggtgacta	cggtagtaat	ggtaacaatg	gtggaaacgg	gaacaatggt	aataacggtg	1380
50	ataacggtaa	tggcgacaat	ggttataacg	gtgataatgg	taacagtga	gggcgactca	1440
51	gacgttgga	cttggaaaat	gtccgacgca	tgcataccga	gcgatatcac	ttcagcagaa	1500
52	gatgtattgt	caaaaaagca	aaacgcctca	gcaggattct	cgaatgcgca	tatagacaca	1560
53	aaaaagtcag	agaattcaaa	aggaatggag	aacacaaagg	tcttgatgtt	gaaattacac	1620
54	cggaaatggt	tttaccgcca	ataaagtaca	gacaatacta	tacctatgaa	ggatcattga	1680

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57	gcaagtatgg	aactagacgt	cccacacaga	gaaacataaa	acctttaact	gtgtacaaaa	1860
58	acttcatatg	atcgaactca	ttttctgttc	cagtctcggt	aaggaacaaa	tgtaaataat	1920
59	gtcacgattc	gcacaatgta	caatatatct	gtttctgcac	atcatatgaa	gcataactta	1980
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64	<211>	LENGTH: 1811					
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66	<213>	ORGANISM: Pinctada maxima					
68	<400>	SEQUENCE: 2					
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70	tcattgcgcc	tccatgcaca	ggcatgacca	ttatatggac	atggatcaaa	cctaccctaa	120
71	tggattggga	tactgtgaac	cttcaggtga	aagcagctgt	aaagccggat	ttagctacaa	180
72	tagagacata	tgccaaggtc	cgtatcattg	gcacactata	tctagtgtgt	ataaggcatg	240
73	tggacataaa	aggagacaat	caccaatcaa	catttggtca	cataaagctg	tattcttacc	300
74	ttatctgcca	agactgaaat	tcaagccaca	tatgaagtca	ttggatacgg	acgtgacaaa	360
75	tcaccaaaaat	cgtgcccctg	aattcgagcc	ggaggacgga	gataagcttc	atgtgaaact	420
76	aaagaatctt	gttgatggac	attataaatt	tcacaatctc	catattcaca	acggcaaaaag	480
77	tagacgaaag	ggctcggaac	acagcgtgaa	cagacatttt	acgcccattg	aggctcattt	540
78	ggtgttccat	catgatgata	aaaaggaaat	caaacctcca	aggggttaagt	tagggggagt	600
79	gtacgctggt	cgtaacaaat	ttgttgctgt	tggagtcttt	ctagagggtg	gtgatgaagg	660
80	atacggtgat	gaaccggacg	acgatgaatg	taagcgcata	ttaaagggtc	attgcgagaa	720
81	caatggggac	aatggtaaca	actgtgataa	cggcaacaat	ggtaacaacg	acaacaatgg	780
82	taacaacgga	aacaatggta	atggtaacaa	cgggtataac	ggtaataacg	gtgacaatgg	840
83	aaacaatggc	aatggtaatg	gtaacaacgg	ttataacggt	aataacggtt	acaatggcaa	900
84	caacggaaac	aatggtaatg	gtaacaatga	caataatggt	aacgataaca	acggaaataa	960
85	cgggtggcaat	ggtaacaacg	gaaacaatgg	taatggtaac	aatggaaata	atggtaatgg	1020
86	taataacgga	aataacggtg	gcaatggcaa	caacggaaac	aatggtaata	gtaacaacgg	1080
87	aaataatggt	aatggtaaca	acggaaataa	cgggtggcaat	ggcaacaacg	gaaacaatgg	1140
88	taatggtaac	aatgaaaata	atggtaacgg	tagtaatggt	aacaatggtg	gaaacggcaa	1200
89	caatggtaat	aacggtgata	acggtaatgg	cgacaatggt	tataacggtg	ataatggtaa	1260
90	cagtgcgggg	cgactcagac	gctgggattt	ggcaaagtgc	cgacgcattg	acgccgagcg	1320
91	atatcacttt	agcggaggat	gtatcgtcaa	aaaagctaaa	cgcctcagca	ggattcttga	1380
92	atgcgcatat	agacacaaaa	aagtcagaga	attcaaaagg	aatggagaag	aaaaagggtt	1440
93	tgatgttgat	attacaccgg	aaatggtttt	accgccaatg	aaatacagac	attactatac	1500
94	ttatgaagga	tctttgacaa	cccctccttg	caatgagacc	gtcctttggg	ttgttgaaaa	1560
95	atgccacgtg	caagtatcca	gaagggtgct	tgatgcattg	cggaacgtcg	aaggatatga	1620
96	agatgggtacc	acgctgagca	agtatggaac	cagacgtccc	acacaaagaa	acaagcatcc	1680
97	tctacgtgtg	tacaaaaact	ccatataatg	atcatggcga	gagaatgacg	acgcttcttc	1740
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108 ctgtgttatg ggcctccat gtttaaacat gaccactaca tggacaatgg tgtgaggtat 120
109 cctaattggtg acggaatctg taaacaattg aatgaaacca aatgtgatgc agggtttagc 180
110 tatgatagga gtatatgtga aggtcctcat tattggcaca ccatatcgaa atgcttcatt 240
111 gcatgtggaa ttggacagag acaatctcca atcaacatcg tttcttatga tgctaaattt 300
112 cgtcagcgtt tgccaaaatt gaaattcaag ccacatatgg agaaattaaa aacagaagtg 360
113 accaatcatc agaaccgagc tccagagttc gagccagagg atggggaaaa tctgtacgtg 420
114 aagctaaata acctagtggg cgggtcattat aaattccata atcttcacgt tcataatggg 480
115 agaaccagac gtaagggatc agaacacagt gttaacgggc gtttcacacc tatggaggct 540
116 catttggttt tccatcatga tgatcaaaca cactttgaac ctacacgcac taagctggga 600
117 ggagcattcc ctggtcataa cgattttgtc gtcgttggag tttttcttga ggtcggagat 660
118 gacggctttg gcgacgaacc ggatgacgaa gaatgtaaac acatcttaaa gggacatcac 720
119 cctgataata acgagaacgg caatggagac aatggcaata acggctacaa tggggacaac 780
120 ggtaacaatg gtgacaacgg caataacagc tacaatgggg acaacggtaa caatggtgtc 840
121 aacggcaata acggctacaa tggggacaac ggtaacaatg gagacaacgg caataacggc 900
122 tacaatgggg acaacggtaa caatggtgac aacggcaata acggtgaaaa cggcaataac 960
123 ggtgaaaacg gcaataacgg tgaaaatggg cacaacacag gatgtcgggt aaagaaagca 1020
124 aagcatctca gtaggatcct ggaatgtgct tatagaaacg ataaggtcag agagttcaag 1080
125 aaagttggag aagaggaagg gttagatgtt catctaacac cggagatggc tttgccgcca 1140
126 ctgaagtaca gacattacta tacatacagag ggatccctga ccactcccc gtgtacagag 1200
127 tctgtcctct gggttgttca aaaatgccat gtgcagggtg caagaagggt tcttcatgca 1260
128 ttacgaaatg ttgaaggata taaagatggg accacactaa gaaagtatgg aactagacgt 1320
129 ccaacgcaaa agaataaagt tactgtgtac aaaagcttca aatagttgac atagtttttg 1380
130 ttcttttctt tatagagaca tgtaacacag ccaattatgt ttcatatgta atccatgtaa 1440
131 aatacaggat ctttacataa atattcatgt gaaacaagca cgaacattaa aggactaggt 1500
132 ggcctaaccc cttatatcgg ccctataatt tcgacgagaa atgcttttaa taaacaaact 1560
133 attaatata gctttttgca atgttgaatg tttgagaaaa taccgcatca ttttttttag 1620
134 ccctcgtaac gtcacgcgag tgatgtatga tgtcatgttc tgaaagtcac ttgccctgaa 1680
135 tgacgcaaaa caaatgagaa tcacgtatt ttacatacaa atcttcaaat tcatctgca 1740
136 ttcaggcctc gaacacgata ttttttatgc aaatttaaag gccgatcaaa aatccatcga 1800
137 ttagtacaaa tattatcgtg ggcaattaag gcctggaacg atacttaatt tcataaattt 1860
138 taatcgaaat ttcgctgatt tattgatatt ttcaatgagt ttcaacgttt tagacatttt 1920
139 tttgtaatat tcagtatagg actatgaaat caaaaaaagc tttcctgata tggattcacc 1980
140 atacatttaa catttcaaaa actagaatat tatggatata tgaacaactt tgaaaatggg 2040
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143 tttcatgtaa aattcatgcg aaggaaattc atgtgaaact catgtgaaat atttttcaca 2220
144 taaatcttaa gtgaaaagta tataaatttc acaactttca tgtgaaattt aagtgatgct 2280
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146 aatgtcaaat atttaataaa tga 2363

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148 <210> SEQ ID NO: 4

149 <211> LENGTH: 611

150 <212> TYPE: PRT

151 <213> ORGANISM: Pinctada margaritifera

153 <400> SEQUENCE: 4

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154 Met Trp Arg Met Thr Thr Leu Leu His Leu Thr Pro Leu Leu Val Leu
155 1 5 10 15
156 Ile Pro Leu Cys His Cys Ala Ser Met His Arg His Asp His Tyr Met
157 20 25 30
158 Asp Met Asp Lys Thr Tyr Arg Asn Arg Trp Gly Asn Cys His Tyr Ser

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PATENT APPLICATION: US/10/086,510

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Input Set : A:\50549-20001\20001001.raw
Output Set: N:\CRF3\03192002\J086510.raw

3/19/02

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208 Gly Ser Asn Gly Asn Asn Gly Gly Asn Gly Asn Asn Gly Asn Asn Gly
209          435          440          445
210 Asp Asn Gly Asn Gly Asp Asn Gly Tyr Asn Gly Asp Asn Gly Asn Ser
211          450          455          460
212 Asp Gly Arg Leu Arg Arg Trp Asp Leu Glu Asn Val Arg Arg Met His
213 465          470          475          480
214 Thr Glu Arg Tyr His Phe Ser Arg Arg Cys Ile Val Lys Lys Ala Lys
215          485          490          495
216 Arg Leu Ser Arg Ile Leu Glu Cys Ala Tyr Arg His Lys Lys Val Arg
217          500          505          510
218 Glu Phe Lys Arg Asn Gly Glu His Lys Gly Leu Asp Val Glu Ile Thr
219          515          520          525
220 Pro Glu Met Val Leu Pro Pro Ile Lys Tyr Arg Gln Tyr Tyr Thr Tyr
221          530          535          540
222 Glu Gly Ser Leu Thr Thr Pro Pro Cys Asp Glu Thr Val Leu Trp Val
223 545          550          555          560
224 Val Glu Lys Cys His Val Gln Val Ser Arg Arg Val Leu Asp Ala Leu
225          565          570          575
226 Arg Asn Val Glu Gly Tyr Glu Asp Gly Thr Thr Leu Ser Lys Tyr Gly
227          580          585          590
228 Thr Arg Arg Pro Thr Gln Arg Asn Ile Lys Pro Leu Thr Val Tyr Lys
229          595          600          605
230 Asn Phe Ile
231          610
233 <210> SEQ ID NO: 5
234 <211> LENGTH: 568
235 <212> TYPE: PRT
236 <213> ORGANISM: Pinctada maxima
238 <400> SEQUENCE: 5
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241 Ile Pro Leu Cys His Cys Ala Ser Met His Arg His Asp His Tyr Met
242          20          25          30
243 Asp Met Asp Gln Thr Tyr Pro Asn Gly Leu Gly Tyr Cys Glu Pro Ser
244          35          40          45
245 Gly Glu Ser Ser Cys Lys Ala Gly Phe Ser Tyr Asn Arg Asp Ile Cys
246          50          55          60
247 Gln Gly Pro Tyr His Trp His Thr Ile Ser Ser Cys Tyr Lys Ala Cys
248 65          70          75          80
249 Gly His Lys Arg Arg Gln Ser Pro Ile Asn Ile Trp Ser His Lys Ala
250          85          90          95
251 Val Phe Leu Pro Tyr Leu Pro Arg Leu Lys Phe Lys Pro His Met Lys
252          100          105          110
253 Ser Leu Asp Thr Asp Val Thr Asn His Gln Asn Arg Ala Pro Glu Phe
254          115          120          125
255 Glu Pro Glu Asp Gly Asp Lys Leu His Val Lys Leu Lys Asn Leu Val
256          130          135          140
257 Asp Gly His Tyr Lys Phe His Asn Leu His Ile His Asn Gly Lys Ser
258 145          150          155          160

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VERIFICATION SUMMARY

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Input Set : A:\50549-20001.20txt.txt

Output Set: N:\CRF3\03192002\J086510.raw

L:11 M:270 C: Current Application Number differs, Replaced Current Application Number
L:12 M:271 C: Current Filing Date differs, Replaced Current Filing Date